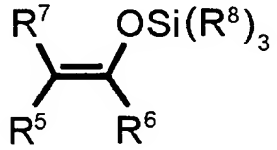
What is claimed is:

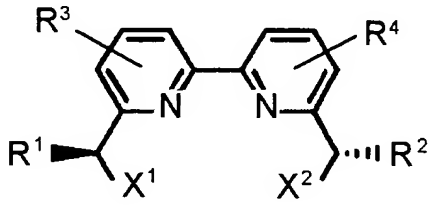
1. A method for producing an optically active hydroxymethylated compound, comprising reacting a silicon enolate and formaldehyde, in the presence of a catalyst, in an aqueous solution or a mixed solvent of water and an organic solvent,

wherein the silicon enolate is represented by the following formula (chemical formula 2):



wherein R^5 to R^7 are hydrogen atoms, aliphatic hydrocarbon groups, monocyclic or polycyclic alicyclic hydrocarbon groups, monocyclic or polycyclic aromatic hydrocarbon groups or heterocyclic groups where R^6 is not a hydrogen atom, R^5 and R^7 are not identical, R^5 and R^6 may together form a ring and R^8, may be identical or different, are hydrocarbon groups, and

the catalyst is obtained by mixing a ligand or its symmetric isomer and a Lewis acid, wherein the ligand is represented by the following formula (chemical formula 1):



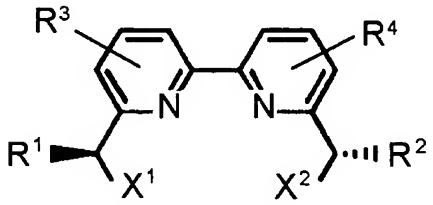
wherein R^1 and R^2, may be identical or different, are hydrogen atoms, alkyl groups or aryl groups, at least one of R^1 and R^2 contains at least three carbon atoms, R^3 and R^4, may be identical or different, are hydrogen atoms, alkyl groups containing one to four carbon atoms or alkoxy groups, X^1 and X^2, may be identical or different, are represented by $-OR^9$, $-SR^{10}$ or $-NHR^{11}$, wherein R^9 to R^{11} are hydrogen atoms or alkyl groups, and

the Lewis acid is represented by MY_n, wherein M is Cu, Zn, Fe, Sc or a lanthanoid element, Y is a halogen atom, OAc, $OCOCF_3$, ClO_4, SbF_6, PF_6 or OSO_2CF_3 and n is 2 or 3.

2. The method as of claim 1, wherein R^5 is a hydrogen atom or an alkyl group, R^6 is an alkyl group, an alkyl aryl group, an aryl group or a sulfide group in which R^5 and R^6 may together

form a five to six membered ring comprising carbon atoms and optional hetero atoms wherein sections of the ring may form an aromatic ring, R^7 is a hydrogen atom, an alkyl group, an alkyl aryl group or an aryl group and R^8, may be identical or different, are alkyl groups.

3. A catalyst obtained by mixing a ligand or its symmetric isomer and a Lewis acid, wherein the ligand is represented by the following formula (chemical formula 1):



wherein R^1 and R^2, may be identical or different, are hydrogen atoms, alkyl groups or aryl groups, at least one of R^1 and R^2 contains at least three carbon atoms, R^3 and R^4, may be identical or different, are hydrogen atoms, alkyl groups containing one to four carbon atoms or alkoxy groups, X^1 and X^2, may be identical or different, are represented by $-OR^9$, $-SR^{10}$ or $-NHR^{11}$, wherein R^9 to R^{11} are hydrogen atoms or alkyl groups, and

the Lewis acid is represented by MY_n, wherein M is Cu, Zn, Fe, Sc or a lanthanoid element, Y is a halogen atom, OAc, $OCOCF_3$, ClO_4, SbF_6, PF_6 or OSO_2CF_3 and n is 2 or 3.